5. (AMENDED) A sensor according to claim 2 in which adjacent regions are spatially separated.

6. (AMENDED) A sensor according to claim 2 in which the or each region gives rise to a corresponding pass band.

8. (AMENDED) A sensor according to claim 1 in which the grating portion comprises two substantially superimposed fibre Bragg gratings.

10. (AMENDED) A sensor according to claim 8 in which the fibre Bragg gratings are chirped fibre Bragg gratings.

13. (AMENDED) A sensor according to claim 8 in which the fibre Bragg gratings are linear fibre Bragg gratings.

16. (AMENDED) A sensor according to claim 1 in which the grating portion comprises one fibre Bragg grating having a plurality of regions within which the refractive index profile of the grating is substantially reduced or nulled.

18. (AMENDED) A sensor according to claim 8 in which the or each fibre Bragg grating is fabricated using a two-beam interference holographic fabrication method.

19. (AMENDED) A sensor according to claim 8 in which the or each fibre Bragg grating is fabricated using a phase-mask fabrication method.

20. (AMENDED) A sensor according to claim 18 in which the or each region in the fibre Bragg grating is formed in a fibre Bragg grating fabricated using the two-beam interference holographic fabrication method by providing an amplitude mask generally in front of the fibre, generally in the beam paths, during fabrication.

21. (AMENDED) A sensor according to claim 19 in which the or each region in the fibre Bragg grating is formed in a fibre Bragg grating fabricated using one of the two-beam interference holographic fabrication method and the phase-mask fabrication method by subsequently further exposing regions of the grating.

22. (AMENDED) A sensor according to claim 1 in which the grating portion comprises a single grating structure fabricated using a phase-mask fabrication method.

28. (AMENDED) A sensor according to claim 26 in which the or each phase reversal section gives rise to a corresponding pass band.

30. (AMENDED) A sensor according to claim 25 in which the period of the periodic variation changes along substantially the full length of the grating portion.

31. (AMENDED) A sensor according to claim 25 in which the grating portion comprises two substantially overlapping chirped fibre Bragg gratings, the first chirped grating being spatially shifted relative to the second chirped grating by an integer plus a fraction of the period of the first grating.

33. (AMENDED) A sensor according to claim 31 in which the two chirped gratings have substantially the same rate of chirp and substantially the same spectral bandwidth, the first chirped grating having a different central wavelength to the second chirped grating.

34. (AMENDED) A sensor according to claim 31 in which the first chirped grating has a different rate of chirp to the second chirped grating, and the two chirped gratings have substantially the same central wavelength and bandwidth.

35. (AMENDED) A sensor according to any of claim 31 in which the fibre Bragg gratings are fabricated using a known two-beam interference holographic fabrication method.

36. (AMENDED) A sensor according to claim 31 in which the fibre Bragg gratings may be fabricated using a known phase-mask fabrication method.

37. (AMENDED) A sensor ac cording to claim 25 in which the grating portion comprises one chirped fibre Bragg grating having a plurality of sections in which the phase of the periodic variation substantially reverses.